

**Abstract**

A system and method for detecting and correcting errors within a control system is disclosed. A storage device stores data values that are used to control one or more circuits within the system. This storage device may operate  
5 as a slave, such that the storage device is addressed using address signals provided by an external source. This storage device may also operate as master such that some of the data signals that are read from the storage device are used to generate the address for performing the next reference the storage device. In the former slave scenario, and in some cases wherein the storage  
10 device is operating as a master, data signals that would otherwise be employed to generate an address are instead employed as check bits to implement an error detection and correction scheme.